REMARKS

Claim 9 has been amended. Claims 9-20 are currently pending in the present application. No new matter has been added. Reexamination and reconsideration of the application are respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. 103(a)

Paragraphs 2 to 4 of the Action set forth claim rejections based on 35 U.S.C. 103(a). These rejections combine or rely upon two references or three references to support the obviousness rejections. The combinations proposed by the Action in paragraphs 2-4 are contested as improper for the reasons advanced below. However, even if these combinations were proper, which is not conceded, the resulting combinations would still fail to teach or suggest the specific limitations set forth by the claimed invention as described in greater detail hereinafter.

Claims 9-15 are rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 2 on pages 2 to 4 of the Action. Specifically, claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst et al (U.S. Pat. No. 5,930,553, hereinafter referred to as "Hirst" or "the Hirst reference") in view of Fackler et al. (U.S. Pat. No. 5,729,204, hereinafter referred to as "Fackler" or "the Fackler reference").

Hirst is cited for teaching a printer controller as claimed. Specifically, FIG. 1 (e.g., elements 13, 12, 15, 30, 31), FIG. 3 and col. 2, lines 40-50, col. 4, lines 45-67 and col. 5, lines 15-25 and lines 38-52 of Hirst are cited for teaching all the elements of the

claimed invention except that printer controller 13 is disposed in a cable external to the printer.

Fackler is cited for teaching a cable that includes a controller that is external to a printer. Specifically, FIG. 1, FIG. 2 and col. 2, lines 10-65 and abstract of Fackler are cited for this teaching. It is respectfully submitted that the combination of Hirst and Fackler fails to teach or suggest the printer controller disposed in a cable as claimed.

First, Hirst teaches an imaging forming device (printer) in which the print engine 12 and printer controller 13 are disposed in the housing of the imaging forming device (see, col. 4, lines 24-37). FIG. 1 also clearly indicates or shows that the printer controller 13 is disposed in the printer housing 11.

Second, since Hirst's printer is manufactured with a fixed printer controller that is disposed in the housing, Hirst does not fairly teach or suggest "a dynamic loading program for automatically managing the download of the non-resident printer controller program to the random access memory and for automatically determining whether the printer controller program is compatible with the print engine and the printer controller," as claimed. Because the compatibility issue only stems from configuring a printer controller in a cable according to the invention, Hirst does not need to check for compatibility. In other words, compatibility of the printer controller program with the print engine and with the printer controller is a non-issue for Hirst.

It is noted that Hirst's loading of software updates does not fairly teach or suggest "a dynamic loading program for automatically managing the download of the non-resident printer controller program to the random access memory and for

automatically determining whether the printer controller program is compatible with the print engine and the printer controller," as claimed. As advanced hereinafter, Hirsh does not fairly teach or suggest the above-noted limitation.

Furthermore, the "controllers" of Fackler do not fairly teach or suggest the printer controller as claimed. The controllers of Fackler are described and referred to as switches 30A to 30C (col. 5, lines 25-35) that establish a data path for data to flow between a particular device (e.g., peripheral device) and the host 12. These controllers of Fackler have nothing to do with printing.

Moreover, the cable of Fackler performs a very different function than the printer controller disposed in a cable as claimed. Whereas Fackler's cable operates as an electronic switch that establishes a data pathway between host device 12 and a peripheral device (see, col. 5, lines 24-34), the claimed invention performs printer controller functions, which are very different from the data flow control and selective access functions of Fackler's cable (col. 2, lines 10-17).

Stated differently, it is a strained interpretation to equate the cable of Fackler that switches data between a host device 12 and the peripheral devices 14 with a printer controller disposed in a cable as claimed. Moreover, Fackler does not cure the deficiencies of Hirst noted previously.

In view of the foregoing, it is respectfully submitted that the Hirst reference, whether alone or in combination with the Fackler reference, fails to teach or suggest the printer controller as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. Section 103(a) be withdrawn.

Claims 16-20 are rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 3 on pages 5-6 of the Action. Specifically, claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst et al (U.S. Pat. No. 5,930,553, hereinafter referred to as "Hirst" or "the Hirst reference") in view of Terashima et al. (U.S. Pat. No. 6,538,762, hereinafter referred to as "Terashima" or "the Terashima reference"). Terashima is cited for teaching that the printer controller is external to the printer. Specifically, FIGS. 1-4 are cited for this teaching.

Specifically, the Hirst reference, whether alone or in combination with the Terashima reference, fails to teach or suggest inter alia the following claim limitations: "determining whether the printer controller program is compatible with the print engine, the printing software and printer controller," as claimed in claim 16.

Typically, in the prior art, the printer controller is assembled with the print engine, and the assembly is disposed in a printer's enclosure (as shown in Hirst). One aspect of the invention is the provision of a printer controller in a cable that can be easily replaced or upgraded by a user. For example, replacing or upgrading a printer controller can be accomplished through the purchase of a new cable that includes a new printer controller that provides new features, etc. However, this novel system according to the invention introduces new problems that are not encountered by the prior art printing systems. One such problem is related to the compatibility of the new printer controller, especially, the printer controller software or programs, with 1) the print engine 2) the printer controller, and 3) with the printer driver program at a source (e.g.,

host computer). This compatibility is ensured in the prior art systems since the printer manufacturer integrated these components.

For the printer controller to work properly, the printer controller program must be compatible with the print engine at the printer and the printer controller hardware in the cable.

The references do not fairly teach automatically checking the compatibility of the printer controller software with the print engine and the printer controller as claimed by the invention. For example, Hirst's provision of software updates or patches for micro-controllers (col. 2, lines 43-45) is not the same as automatically determining whether the printer controller program is compatible with the print engine and the printer controller as claimed. Hirst's system does not perform compatibility checking since the printer controller is fixed (i.e., the printer controller is not replaceable by a user). Stated differently, Hirst does not fairly teach checking whether the printer controller program is compatible with the printer controller as claimed since compatibility of the printer controller program with the print engine and printer controller is assumed in Hirst.

Hirst further notes that an example of such software updates is an update to color lookup tables that may be needed due to changes in toner formulations (col. 2, lines 47-52). It is respectfully submitted that color lookup table updates are very different from the automatic compatibility checking as claimed.

It is noted that dependent claims 17-20 incorporate all the limitations of independent claim 16. Furthermore, the dependent claims also add additional

limitations, thereby making the dependent claims a fortiori and independently patentable over the cited references.

In view of the foregoing, it is respectfully submitted that the Hirst reference, whether alone or in combination with the Terashima reference, fails to teach or suggest the printer controller and method as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. Section 103(a) be withdrawn.

Claim 20 is rejected under 35 U.S.C. 103(a) for the reasons set forth in paragraph 4 on pages 6-7 of the Action. Specifically, claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst and Terashima et al. (U.S. Pat. No. 6,538,762, hereinafter referred to as "Terashima" or "the Terashima reference") and further in view of Austin (U.S. Pat. No. 6,665,089, hereinafter referred to as "Austin" or "the Austin reference").

Austin is cited for teaching performing a cyclic redundancy check on the printer controller program. Specifically, FIG. 18 and col. 12 lines 60-67 to col. 13, lines 1-30 are cited for this teaching. However, it is respectfully submitted that the combination of Hirst, Terashima, and Austin fails to teach or suggest the invention as claimed for the same reasons as advanced previously. Stated differently, Austin does not cure the deficiencies of Hirst and Terashima.

In view of the foregoing, it is respectfully submitted that the Hirst reference, whether alone or in combination with the Terashima reference and the Austin reference, fails to teach or suggest the printer controller and method as claimed. Accordingly, it is

respectfully requested that the claim rejections under 35 U.S.C. Section 103(a) be withdrawn.

THE PROPOSED COMBINATIONS ARE BASED ON IMPERMISSIBLE USE OF THE CLAIMED INVENTION AS A TEMPLATE TO PIECE TOGETHER THE TEACHINGS OF THE CITED REFERENCES

It is respectfully submitted that the references are improperly combined. It appears that the Action uses improper hindsight to select components or elements from the different references to arrive at the claimed invention.

Assuming arguendo that the different components of the different references may be combined in the manner outlined in the Action, the Federal Circuit has stated, "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 23 USPQ 2d 1780, 1783–84 (Fed. Cir. 1992) [emphasis added].

The Federal Circuit has further held In re Fritch, 972 F.2d 1260, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992):

> In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. ... "[The Examiner] can satisfy this burden only by showing some objective teaching in the prior art ... would lead that individual to combine the relevant teachings of the references. In re Fine, 837 F.2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988). [emphasis added.]

Consequently, it appears that the current patent application has been improperly used as a basis for the motivation to combine or modify the components selected from the cited references (e.g., Hirst, Fackler, Terashima, and Austin) to arrive at the claimed invention. Stated differently, the proposed combination of the cited references appear to be based on hindsight since the cited references do not teach or suggest a motivation to combine the respective elements of each reference in the manner proposed by the Action.

The Federal Circuit has held, "It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated, "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (quoting In re Fine, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)), In re Fritch, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992). [emphasis added.]

Furthermore, the Federal Circuit has held, "The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself." In re Oetiker, 977 F.2d 1443, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992)

Accordingly, hindsight reconstruction may not be used to pick a component from one reference and another component from another reference to arrive at the invention as claimed. Accordingly, it is respectfully requested that the rejections of claims 9-15, and 16- 20 under 35 U.S.C. 103(a) be withdrawn.

Conclusion

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

Respectfully submitted,

Eric Ho

Eric Ho, Reg. No. 39,711
Attorney for Applicant
20601 Bergamo Way Tel: (818) 998-7220
Northridge, CA 91326 Fax: (818) 998-7242

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP: AF, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date below.

Eric Ho

Eric Ho (RN 39,711) Feb. 7, 2005 (Date)